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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,304	04/16/2004	Wataru Matsumoto	2611-0124PUS2	7760
2292	7590	10/31/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/825,304

Applicant(s)

MATSUMOTO ET AL.

Examiner

Brian D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 6, 9, 10, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7, 8, 11, 12, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/509717.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 2 and 4 are objected to because of the following informalities:

Claim 2, line 15, it is suggested to insert --which-- before “no data”.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 5, 6, 9, 10, 13, and 14 rejected under 35 U.S.C. 102(e) as being anticipated by Modlin (6,480,475).

Modlin discloses the invention (claim 1) as claimed including a communication system which performs data communication (see col. 1, lines 23-24) by a discrete multi-tone modem scheme (see col. 1, lines 36-37) between a plurality of data communication units using the time-division half-duplex communication function, (wherein the TD half-duplex communication, which can alternatively be considered as TD duplex or time compression multiplex communications, avoid collisions or interference between information packets communicated in the two directions of communication on the communications path by ensuring that the communications in the two directions take place at different times), wherein the ratio between

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the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that bits of data obtained according to the uniform data rate are assigned in such a manner that the data bits uniformly obtained during a given period are transmitted during the data transmission time of one period, and wherein dummy bits are assigned to the portion of the data transmission time to which no data bits have been assigned (see Figs. 3 and 4, elements 308, 314, 406, and 408, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, and col. 12, lines 1-15).

Regarding claim 2, Modlin discloses a communication system which performs data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that bits of data obtained according to the uniform data rate are assigned in such a manner that the data bits uniformly obtained during a given period are transmitted during the data transmission time and the quasi-data transmission time of one period, and wherein dummy bits are assigned to the portion the data transmission time and the portion of the quasi-data transmission time to which no data bits have been assigned (see Figs. 3 and 4, elements 308, 314, 406, and 408, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, 60-67, and col. 12, lines 1-15).

Regarding claim 5, Modlin communication a system which performs data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, the data of a given period are characterized in that data bits are reproduced according to the uniform data rate, such that all data bits uniformly reproduced during a given period are reproduced from the received data that was assigned to the data transmission time of one period (see Figs. 3 and 4, elements 308, 314, 406, and 408, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, and col. 12, lines 1-15).

Regarding claim 6, Modlin discloses a communication system which performs data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that data bits are reproduced according to the uniform data rate, such that all the data bits uniformly reproduced for a given period are reproduced from received data that was assigned to the data transmission time and the quasi-data transmission time of one period (see Figs. 3 and 4, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, 60-67, and col. 12, lines 1-15).

Regarding claim 9, Modlin discloses a communication method of performing data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that bits of data obtained according to the uniform data rate are assign in such a manner that the data bits uniformly obtained during a given period is transmitted during the data transmission time of one period, and wherein dummy bits are assigned to the portion of the data transmission time to which no data bits have been assigned (see Figs. 3 and 4, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49,60-67, and col. 12, lines 1-15).

Regarding claim 10, Modlin discloses a communication method of performing data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that bits of data obtained according to the uniform data rate are assigned in such a manner that the data bits uniformly obtained during a given period is transmitted during the data transmission time and the quasi-data transmission time of one period, and wherein dummy bits are assigned to the portion of the data transmission time and the portion

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of the quasi-data transmission to which no data have been assigned (see Figs. 3 and 4, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, 60-67, and col. 12, lines 1-15).

Regarding claim 13, Modlin discloses communication method of performing data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that data bits are reproduced according to the uniform data rate, such that all the data bits uniformly reproduced during a given period are reproduced from received data that was assigned to the data transmission time of one period (see Figs. 3 and 4, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, 60-67, and col. 12, lines 1-15).

Regarding claim 14, Modlin discloses a communication method of performing data communication by a discrete multi-tone modem scheme between a plurality of data communication units using the time-division half-duplex communication function, wherein the ratio between the data transmission time suitable for data transmission and the quasi-data transmission time other than the data transmission time within each period of a uniform data rate (see col. 6, lines 4-13 where Modlin teaches of a uniform (constant) data rate) changes dynamically, characterized in that data bits are reproduced according to the uniform data rate,

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such that all the data bits uniformly reproduced for a given period are reproduced from received data assigned to the data transmission time and the quasi-data transmission time of one period (see Figs. 3 and 4, col. 8, lines 48-55, col. 9, lines 44-67, col. 10, lines 24-47, col. 11, lines 9-25, 32-49, 60-67, and col. 12, lines 1-15).

***Allowable Subject Matter***

4. Claims 3, 4, 7, 8, 11, 12, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments filed 4/21/05 have been fully considered but they are not persuasive. The applicant argued that Modlin provides no express teaching of assigning bits in such a manner that the uniformly obtained data bits of a given period are transmitted during the data transmitting time of one period of a uniform data rate, as required by independent claims 1, 2, 9, and 10. Similarly, Modlin fails to teach that data bits are uniformly reproduced during a given period from data that was assigned to the data transmission time of one period, as required by independent claims 5, and 14. The examiner disagrees because the added limitation: "a uniform data rate" is taught by Modlin in col. 6, lines 4-13. In col. 6, lines 4-13, Modlin teaches of constant symbol rate that is equivalent to uniform data rate. Note that constant (uniform) data rate, variable data rate, or other types of data rates are all well known in the art.



***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

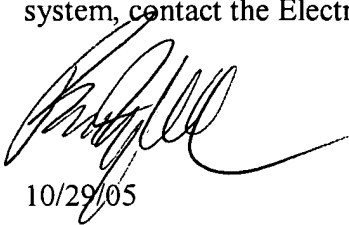
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



10/29/05

**BRIAN NGUYEN**  
**PRIMARY EXAMINER**